

ABSTRACT OF THE DISCLOSURE

The invention is directed to improved automatic dispenser apparatus for dispensing sheet material and the like without contact between a user and the dispenser. Proximity detection apparatus is provided to detect the presence of a user
5 in a detection zone generated outside the dispenser. Control apparatus controls actuation of the dispenser in response to the detected user. Preferred forms of the proximity detector include a sensor and a signal detection circuit operatively connected to the sensor. The sensor includes conductors configured to have a capacitance and positioned such that the capacitance is changed by the presence of a
10 user within the detection zone. The signal detection circuit detects the change in capacitance and is provided with an oscillator having a frequency which is affected by the sensor capacitance and a differential frequency discriminator which detects changes in the oscillator frequency. The control apparatus receives the detected frequency change and generates a signal provided to actuate the dispenser to dispense
15 the material. The dispenser control apparatus controls dispenser operation responsive to decreases in battery voltage which occur during the life cycle of the batteries and controls dispenser operation when the batteries near the end of such life cycle. Such control apparatus may be used with any type of battery powered dispenser, including hands-free dispensers and dispensers actuated by direct physical contact with the user.

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